

IN THE CLAIMS

1-16. (Cancelled)

17. (Currently Amended) Process for treating vulcanized rubber waste, ~~particularly tyres of all sizes and of all types and/or of other worn reinforced rubber articles, such as boots, inflatable boats,~~ this process comprising:

- coarse cutting of ~~the~~ said waste into fragments, and
- attacking said fragments using a molten pure base,

characterized in that said attacking of the fragments is carried out under temperature conditions causing, in the presence of molten pure cast NaOH, as said molten pure base said attacking base, deconsolidation of the vulcanized rubber waste into deconsolidated solid fragments of polymeric composition, and in that the process furthermore comprises

- separating said molten base from said deconsolidated solid fragments,
- neutralizing the deconsolidated solid fragments, and
- recycling or reutilizing the neutralized, deconsolidated solid fragments.

18. (Cancelled)

19. (Currently Amended) Process according to Claim 17, characterized in that said ~~separation~~ separating comprises sedimentation of the deconsolidated fragments, separated beforehand from the molten base, in a settling and neutralizing liquid, and, after removal of the settling and neutralizing liquid, recovery of the deconsolidated fragments.

20. (Previously Presented) Process according to Claim 17, characterized in that it comprises a recycling of the molten pure base.

21. (Currently Amended) Process according to Claim ~~[[18,]]~~ 17, characterized in that the molten NaOH treatment temperature is at most 400°C, ~~advantageously at most 350°C.~~

22. (Previously Presented) Process according to Claim 17, characterized in that the deconsolidated solid fragments comprise metal fragments and fragments made of synthetic material and in that the process furthermore includes sorting between the metallic and synthetic deconsolidated fragments before they are recycled or reutilized.

23. (Currently Amended) Process according to Claim 17, characterized in that the deconsolidation ~~treatment~~ takes place in a closed reactor, the ~~materials~~ waste to be treated being completely immersed.

24. (Currently Amended) Process according to Claim 17, characterized in that the neutralizing ~~neutralization uses dilute acids, preferably phosphoric acid, more advantageously waste from certain phosphoric acid solutions~~ uses at least one dilute acid.

25. (Currently Amended) Plant for implementing the process for treating vulcanized-rubber waste according to Claim 17, characterized in that it forms a completely closed system, with no atmospheric pollution, which comprises:

- a device for melting said molten pure base;
- a reactor connected to said device for melting, into which said vulcanized-rubber waste, coarsely cut into pieces, and said molten pure base ~~as attacking medium~~ are introduced, and in which reactor temperature conditions are applied causing deconsolidation of the vulcanized-rubber waste into solid fragments ~~deconsolidated under the action of the attacking medium;~~ of polymeric composition.
- a separating device connected to an outlet of said reactor and allowing the molten base ~~serving as the attacking medium~~ to be separated from the deconsolidated solid fragments;
- a neutralizing device fed with neutralizing agent from a source of neutralizing

agent, in which device the deconsolidated solid fragments are neutralized; and

- a device connected to the neutralizing device for sorting the neutralized, deconsolidated solid fragments.

26. (Original) Plant according to Claim 25, characterized in that the reactor has closeable inlet and outlet openings, stirring equipment, and in that said separating device comprises a filter if necessary unclogged by a compressed-air device capable of retaining inside the reactor particles greater than 1 mm.

27. (Currently Amended) Plant according to Claim 25, characterized in that the neutralizing device comprises a tank provided with an inlet communicating with ~~[[the]]~~ an outlet of the reactor, and with an outlet, the inlet and outlet being closeable, stirring equipment and a filter if necessary unclogged by ~~[[the]]~~ a compressed-air device in ~~[[the]]~~ an output line ~~with extension, spraying equipment for facilitating the neutralization via a line.~~

28. (Previously Presented) Plant according to Claim 25, characterized in that the neutralizing device comprises a tank for injection of neutralized liquid and for recovery.

29. (Currently Amended) Plant according to Claim 25, characterized in that the neutralizing device comprises another tank which contains acid waste and is connected to a mixing unit ~~in the line.~~

30. (Currently Amended) Plant according to Claim 25, characterized in that it comprises devices for cleaning ~~[[the]]~~ precipitates and small particles, ~~during treatment~~ in the NaOH.

31. (Currently Amended) Plant according to Claim 25, characterized in that the ~~sorting~~ device for sorting comprises a device for transporting the deconsolidated materials with magnetic separation of ~~[[the]]~~ metallic materials, ~~possibly combined with an eddy current system for the non-ferrous materials.~~

32. (New) Process according to Claim 17, wherein the vulcanized rubber waste consists of one or more of tyres, boots, inflatable boats and reinforced rubber articles.

33. (New) Process according to Claim 21, wherein the molten NaOH treatment temperature is at most 350°C.

34. (New) Process according to Claim 24, wherein the at least one dilute acid is phosphoric acid.